F1-120

CALFED
REQUEST FOR PROPOSALS (RFP)
1997

I. EXECUTIVE SUMMARY

I.

a. **Project Title and Applicant Name:**
Napa-Sonoma Marshes Wildlife Area - Napa River Unit, Salt Ponds 1-A, 2, and 2-A Water Control Structures.
California Department of Fish and Game, Region 3

b. **Project Description and Primary Biological/Ecological Objectives:**
This project involves the replacement and upgrade of three failing water control structures within the Napa River Unit of the Napa-Sonoma Marshes Wildlife Area at Salt Ponds 1-A, 2, and 2-A. The primary objective of this project is to improve water movement and management. This will result in improved and maintained salt marsh habitat conditions and increase our ability to reduce salts in the ponds.

c. **Approach/Tasks/Schedule:**
The California Department of Fish and Game (Department) proposes to bring water into the pond system from adjacent rivers, sloughs and channels, and circulate the water through the system via water control structures. The tasks include the removal of three failing structures and the replacements with upgraded structures. The Contractor's bid for this project presumes a construction period starting September 1, 1998 thus avoiding the California clapper rail nesting season and allowing time to obtain the necessary permits. The project will be completed within one month of the start date. Additionally, we would like to coordinate this project with an adjacent duck club project to take advantage of the equipment on site thus reducing costs.

d. **Justification for Project and Funding by CALFED:**
The existing water control structures were designed and installed for the purpose of salt production via solar evaporation. This proposed project will replace and upgrade these structures to enable the Department to manage water for the purpose of desalination and wetlands management. It will also help with the desalination of the lower salt ponds and eventually lead to tidal marsh restoration. The long term goal of this project is the restoration of these ponds to seasonal wetland and aquatic and saline emergent wetlands habitat benefitting delta smelt, Sacramento splittail, striped bass, longfin smelt, green sturgeon, steelhead trout, California clapper rail, snowy plover and the salt marsh harvest mouse. These habitats are identified by the CALFED Program Ecosystem Restoration Program Plan for the Suisun Marsh/North San Francisco Bay Ecological Zone as providing major benefits to priority species.

I-002645

e. **Budget Costs and Third Party Impacts:**
There could be a positive third party impact from the Can Duck Club (Department Lessees) if this proposal is funded. The duck club is constructing two new water control structures during the same time period. If we can build our proposed water control structures at the same time as the duck club, there is potential for a mutual savings of time and money estimated to exceed $16,000. The requested funding for the Departments proposed water control structures is $221,000. which assumes a simultaneous effort between the duck club and the Department. This scenario would require the same contractor to bid and receive both projects.

f. **Applicant Qualifications:**
The California Department of Fish and Game will contract with experienced contractors to install the water control structures. These structures will be operated as part of our on-going management of the wildlife area.

g. **Monitoring and Data Evaluation:**
Biological, water quality and hydrological data such as salinity, pH, dissolved oxygen (DO), biochemical oxygen demand (BOD), temperature, conductivity, turbidity, sediments, fish and wildlife usage, and habitat changes are currently being gathered and monitored by the Department at sites throughout the Wildlife Area. Our efforts are in coordination with other data being gathered by private consultants (Pond 2-A Restoration Project), the University of California at Davis (UCD), United States Geological Survey (USGS), and the Napa Resource Conservation District (RCD). This monitoring will continue during, and after replacement of the water control structures. This monitoring program is ongoing and not dependent upon this CALFED proposal. There is a CALFED proposal being submitted from the Coastal Conservancy which will help fund a large-scale monitoring program throughout the entire Napa-Sonoma Marsh system.

h. **Local Support/Coordination With Other Programs/Compatibility With CALFED Objectives:**
Coordination with agencies/groups such as other Department Programs (Bay Delta), U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers (CORPS), Regional Water Quality Control Board (RWQCB), Bay Conservation and Development Commission (BCDC), USGS, UCD, RCD, Goals Project, Estuarine Institute, and Phillip Williams and Associates is happening on a regular basis as part of the Napa-Sonoma Marsh Complex Restoration Committee. This group is assisting in the restoration goals and has developed a plan to monitor and model the hydrodynamics of the entire Napa-Sonoma Marsh Complex. The water control structure project is compatible with CALFED objectives because of its focus toward enhancing and maintaining saline emergent wetland and other bay aquatic habitats for priority species.

II. TITLE PAGE

II.

a. **Project Title:**
Napa-Sonoma Marshes Wildlife Area--Napa River Unit, Salt Ponds 1-A, 2 and 2-A Water Control Structures.

b. **Applicant Information:**
Jim Swanson, Senior Wildlife Biologist; Department of Fish and Game, Region 3; P.O. Box 47, Yountville, California 94599; phone: (707) 944-5528; fax: (707) 944-5563; email: 103114,567@compuserve.com.

Larry Wyckoff, Associate Wildlife Biologist; Department of Fish and Game, Region 3; P.O. Box 47, Yountville, California 94599; phone: (707) 944-5542; fax: (707) 944-5563; email: lwyckoff@compuserve.com.

c. **Type of Organization and Tax Status:**
State of California Government Agency, Tax Exempt.

d. **Tax Identification Number:**
941697567.

e. **Technical and Financial Contact person:**
Same as above.

f. **Participants/Collaborators in Implementation:**
California Department of Fish and Game.

g. **RFP Project Group Types Involved:**
Group 1: Construction and repair work on water control structures, levees, and channels.

III. PROJECT DESCRIPTION

III.

a. **Project Description and Approach:**
This project involves the installation and replacement of water control structures within the Napa River Unit (former Cargill salt ponds) of the Napa-Sonoma Marshes Wildlife Area. Currently, the existing water control structures in Ponds 1-A, 2, and 2-A are badly corroded due to high salinity water conditions. The existing structures were designed and installed to produce salt through solar evaporation and do not function adequately to provide water needed to proceed with the desalination, habitat restoration, and general management of the ponds. The canal gate and culvert in Pond 1-A is essentially non-functional. The Pond 2 canal gate and screw assembly are badly corroded and function at less than 50% efficiency and its associated walkway has partially collapsed. The Pond 2-A structure is to small (42" diameter culvert) and has one screw gate. The replacement structure will be a 48" diameter culvert with combination screw/flap gates at both ends to permit controlled water movement in both directions. The Department proposes to replace these three failing water control structures with new culverts, screw/flap gates, and other associated hardware to ensure continued and improved water management capabilities.

b. **Location/Geographic Boundaries:**
Cutting's Wharf Quadrangle, Island No. 2, Napa-Sonoma Marshes Wildlife Area - Napa River Unit, T.4.N., R.4.W., Sections 29, 30 and 32 in Napa and Solano counties (See Vicinity Map, Figure 1.). Access to project site is by boat only.

c. **Expected Benefits:**
The increased salinity stressor is a repercussion from former salt production operations and inefficient water control structures. The new water control structures will provide a conduit for increased water movement needed for the desalination efforts in the salt ponds. The primary stressors to the historic Napa-Sonoma Marsh include habitat fragmentation and loss of saline emergent wetlands habitat due to the construction of levees for the formation of salt evaporation ponds and diked farmlands. The water control structures are an important step towards the long term restoration efforts. After the desalination, restoration efforts will involve the reconnection of these ponds to the bay by removing a portion of the existing levees to allow a more natural inundating tidal cycle and managed flooding of historic wetland areas.

Tidal restoration, made possible by installing improved water control structures for desalination processes, would benefit priority habitats including seasonal and

saline emergent (tidal) wetlands which provide habitat for priority species such as:

- delta smelt
- Sacramento splittail
- longfin smelt
- green sturgeon
- steelhead trout
- striped bass
- California clapper rail
- snowy plover
- salt marsh harvest mouse

Wintering and nesting habitat is provided for secondary priority species such as migratory waterfowl and other water-dependant wildlife species. Improving water movement and management options for the salt ponds will result in improved water quality and sustainable populations of diverse and valuable plant, fish, and animal species.

The restored marsh will have secondary benefits to recreation including boating, fishing and waterfowl hunting, and enhanced opportunities for bird watching, photography, and nature study.

d. **Background and Biological /Technical Justification:**
The Department assumed management of approximately 10,000 acres of former Cargill Salt Corporation lands in 1994. Of the 10,000 acres, approximately 7,500 acres were developed to produce salt with varying ranges of salinity. The once extensive (40,000 + acres) Napa-Sonoma Marsh is now levied and separated into isolated units (salt ponds and diked farmland) which do not provide much habitat value for fish and estuarine species. The decline of this tidal salt and brackish marsh habitat has also contributed to the decline of many species of fish, birds, plants, and invertebrates listed as rare, threatened, or endangered.

The Department's objectives for the salt ponds are to reduce the pond salinities to bay and slough background levels and then restore most of them to tidal wetlands. In order to obtain these objectives, water must be brought into the system from adjacent bays, rivers, sloughs and channels, and circulated through the system via water control structures. The existing water control structures were designed and installed for the purpose of salt production through solar evaporation, are in poor repair, and need to be replaced to improve current water quality conditions. Exposure to the high salinities for 30+ years has seriously compromised the structural integrity of the water control structures in Ponds 1-A, 2, and 2-A. The canal gate and culvert in Pond 1-A is essentially non-functional and has been blocked off by means of plywood and boards. The Pond 2 canal gate and screw assembly function at less than 50% efficiency and the associated walkway has

partially collapsed and is considered hazardous. The current Pond 2-A water control gate configuration allows water to flow in and out. The new structure will control direction and the amount of flows. If the existing water control structures are not replaced, water quality conditions will become worse, forming higher salinities, cause drying of the ponds and eventual salt and acid production which are larger problems for restoration.

Ponds 1-A, 2, and 2-A are vital conduits for water flow into ponds 3 through 6-A. High water levels are needed in these ponds to create "head pressure" to move water to other ponds within the system. With the installation/replacement of water control structures, the Department can manage the system's water quality, movement, and volume, critical to the prevention of degradation and/or disaster to already damaged levees. Additionally, these structures will help reduce the Departments existing pumping costs which have reached $5000. per month during peak pumping seasons.

In January 1995 the Department restored Pond 2-A, a former 550 acre salt evaporator pond. High waters from a flood event seriously threatened the levee system. To prevent a levee failure and uncontrolled release of high salinity water from other ponds, the Department performed a controlled emergency levee breach. This levee breach created tidal exchange between Pond 2-A and South Slough. Water from surrounding ponds was then released into Pond 2-A to be mixed with tidal water and diluted before leaving Pond 2-A into South Slough. After the breach was made, a consulting team of hydrologists, biologists and botanists monitored changing conditions. Based on the first years monitoring of Pond 2-A, native vegetation has already established over 90% of the pond and 41 species of water birds and 5 species of raptors have been observed. A diverse population of aquatic species such as striped bass, Sacramento splittail, inland silverside, staghorn sculpin, northern anchovy, and shad have been collected in this pond. Reverting the Napa-Sonoma salt ponds to tidal marsh has proven to work successfully by controlled levee-breaching and introducing tidal flows to the system.

e. **Proposed Scope of Work:**

The long-term objective for this project is the desalination of 7,000 acres of salt ponds and the eventual restoration of the marsh. The proposed project encompasses the replacement of water control structures and the scope of work is as follows:

- Planning, Design, and Engineering: The planning, design, and engineering for this project has been completed as well as coordinating the project with the adjacent duck club lessees.

- Cost Estimates: Already completed with estimates for combined and singular projects.

- Permits: The proposed project requires RWQCB, CORPS, and BCDC permits. We anticipate obtaining Nationwide and Administrative Permits as these are replacement structures. These permit applications are currently being prepared and we expect to receive them by the spring of 1998.

- Contract: The contract will be completed by the Departments Contract Division if this proposal is approved.

- Project Scope: The three water control structures proposed for CALFED funding through this proposal are:

Project #1:
Pond 2 (Gate "C" on Figure 2.)
This project involves the removal of an old existing 48" culvert and slide gate and replace it with a new 48" diameter 12 GA double dipped CMP, a screw gate attached to the outlet side, and a 48" wide poly riser, 8' high on the Pond 2 side of the structure, and associated bulkheads and walkways (See Figure 3. for details).

Project #2:
Pond 2-A (Gate "D" on Figure 2.)
This project involves the removal of an existing 42" culvert and slide gate and the installation of a new 48" diameter culvert, two new combination screw/flap gates, and associated bulkheads and walkways (See Figure 3. for details).

Project #3:
Pond 1-A (Gate "E" on Figure 2.)
This project involves the removal and replacement of the original canal gate and culvert assembly, at the north end of pond 1-A, with a new structure. The new structure would consist of a 48" culvert with combination screw/flap canal gates at each end and associated bulkheads and walkways (See Figure 4. for details).

f. Monitoring and Data Evaluation:

Biological water quality and hydrological data such as salinity, pH, DO, BOD, temperature, conductivity, turbidity, sediments, fish and wildlife usage, and habitat changes are currently being gathered and monitored by the Department at sites throughout the Wildlife Area. Our efforts are in coordination with other data being gathered by private consultants (Pond 2-A Restoration Project), the University of California at Davis (UCD), United States Geological Survey (USGS), and the Napa Resource Conservation District (RCD). This monitoring will continue during, and after replacement of the water control structures. This

monitoring program is ongoing and not dependent upon this CALFED proposal. There is a CALFED proposal being submitted from the Coastal Conservancy which will help fund a large-scale monitoring program throughout the entire Napa-Sonoma Marsh system.

g. **Implementability:**

These proposed water control structures will require permits for construction activities from the RWQCB, CORPS, and BCDC, the applications are currently being prepared. Water access and easement rights are not problems as the Department owns all 7,500 acres of former salt ponds. The coordination with the adjacent Can Duck Club lessees and other state and federal agencies is in progress.

FIGURE 1: VICINITY MAP

Napa-Sonoma Marshes Wildlife Area

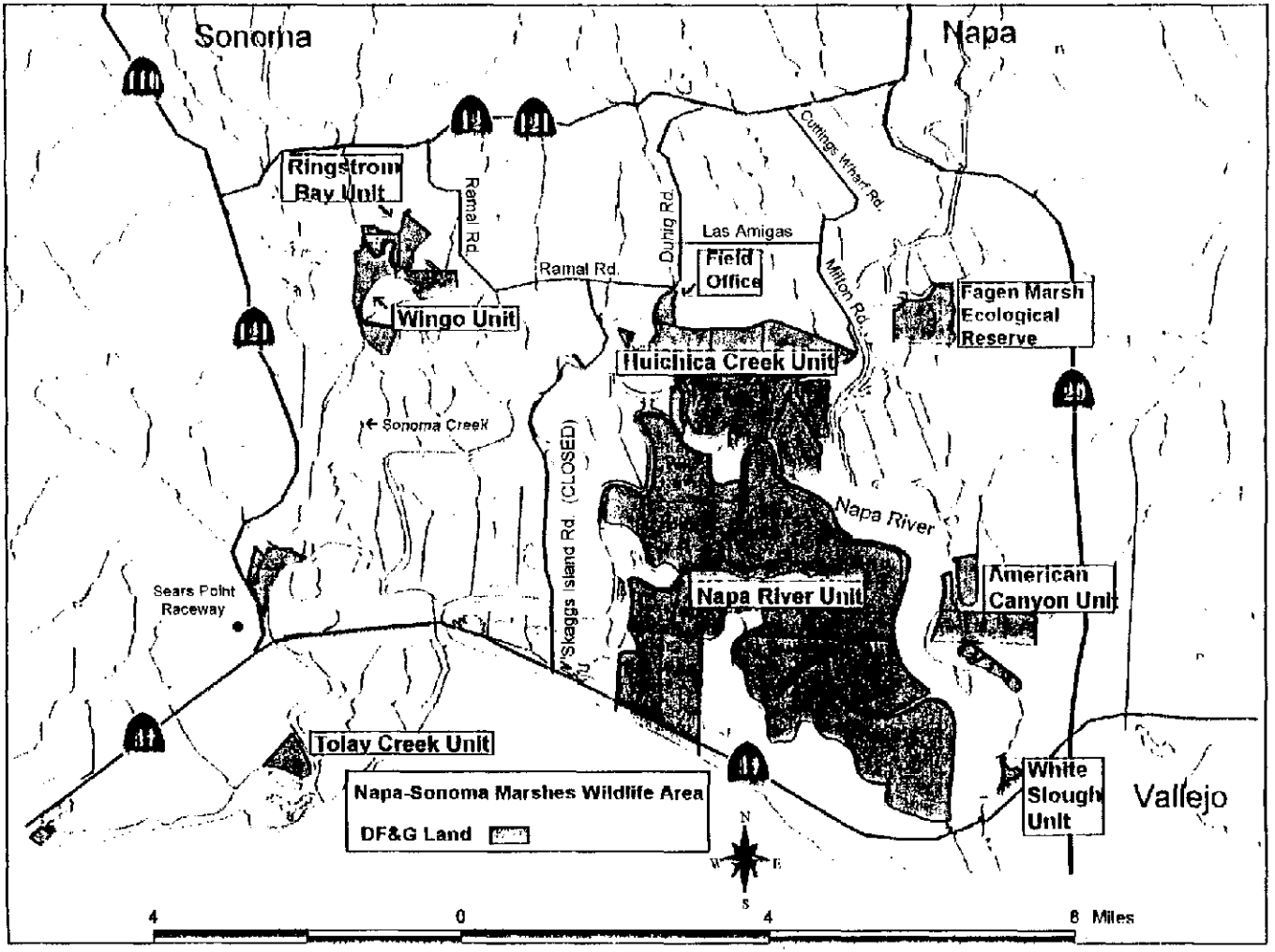

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FIGURE 2: POND 1A, 2, 2A WATER CONTROL STRUCTURES (All Ponds Are Department-Owned)

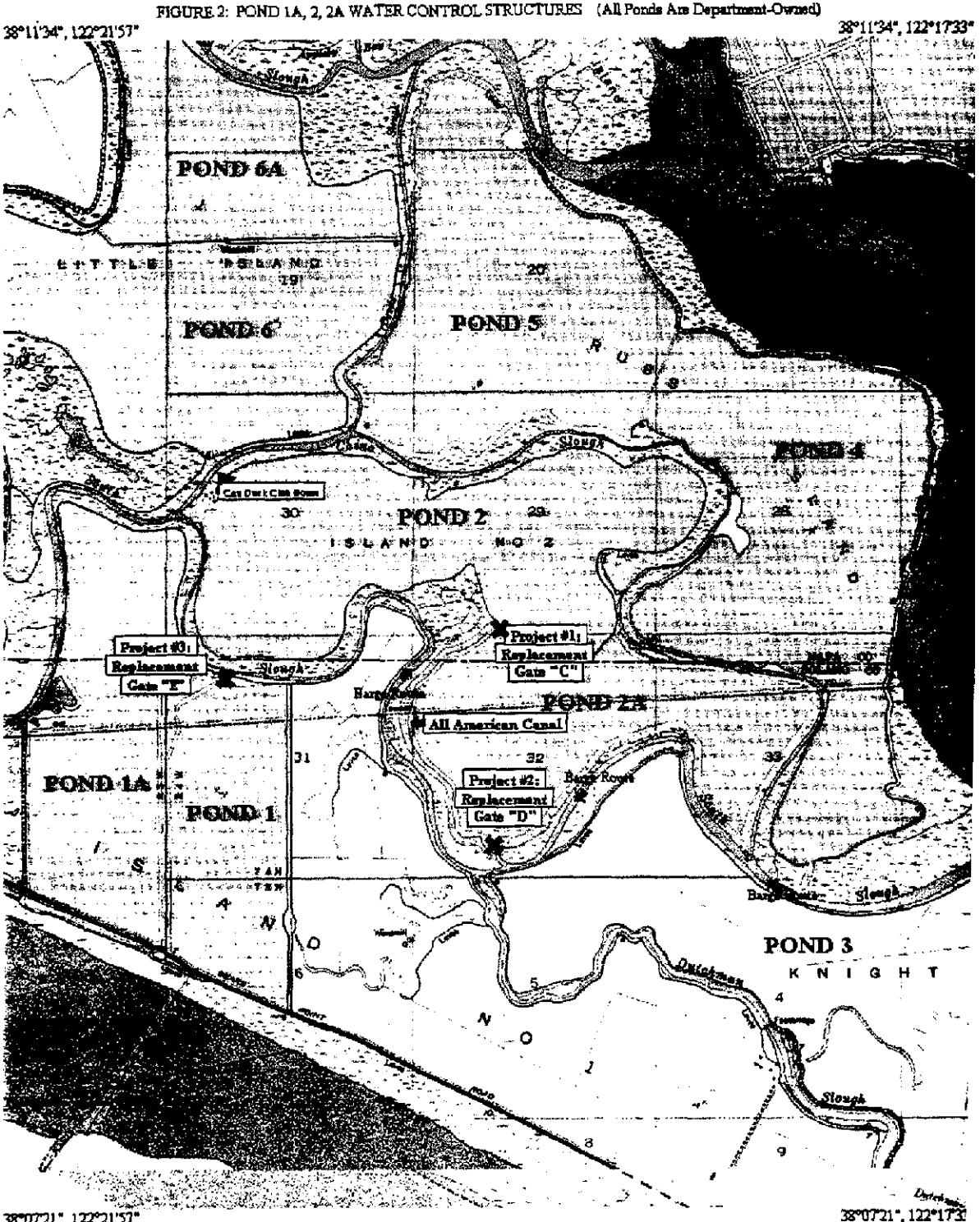

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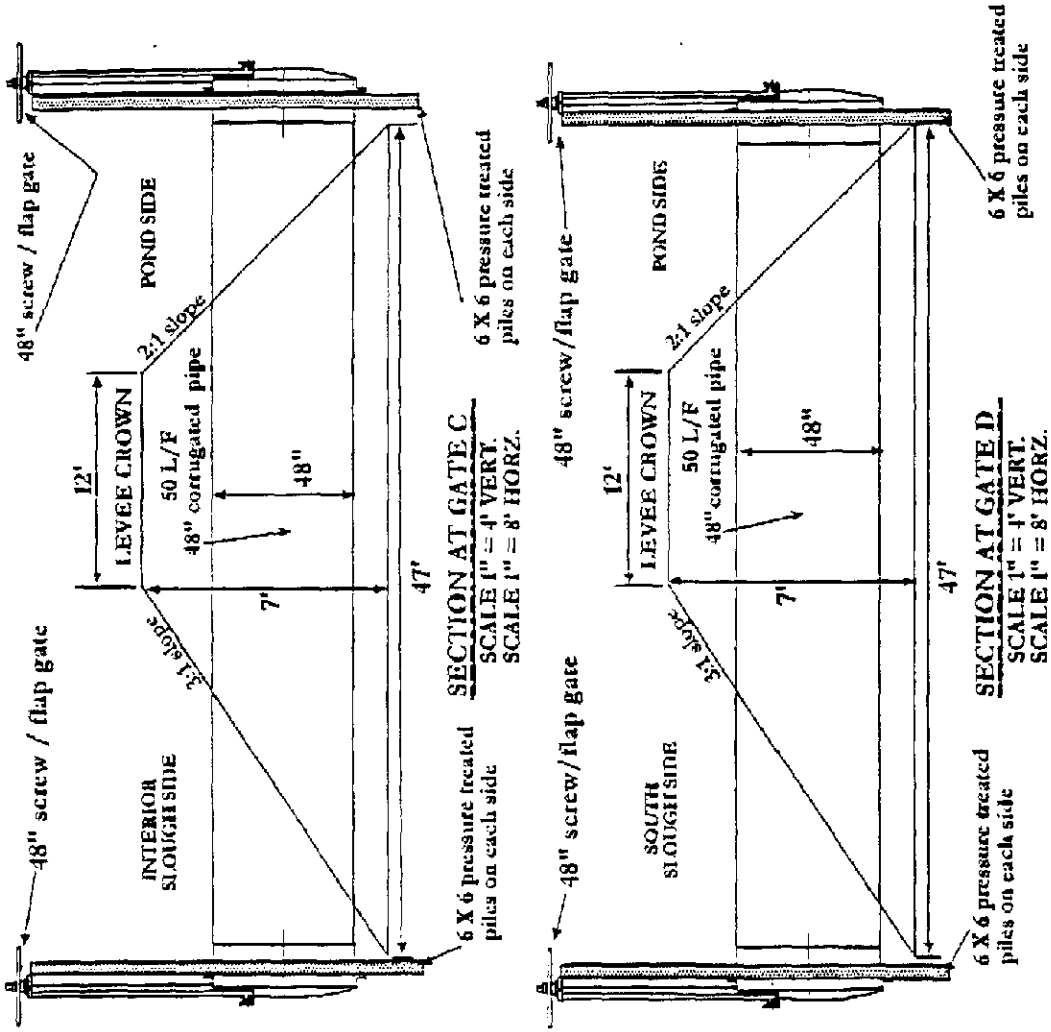
FIGURE 3:
POND 2, AND 2A,
GATE "C" AND GATE "D" CROSS SECTIONS



PURPOSE: INSTALL NEW WATER CONTROL STRUCTURES DATUM: MLLW ADJACENT PROPERTY OWNERS: 1. CA. DEPT. OF FISH & GAME 2. U.S. FISH AND WILDLIFE SERVICE	CROSS SECTIONS 1" = 4' VERT. 1" = 8' HORZ. CA. DEPT. OF FISH & GAME CA. DEPT. OF FISH & GAME P.O. BOX 47 YOUNTVILLE, CA. 94599	PURPOSE: INSTALL NEW WATER CONTROL STRUCTURES IN: NAPA MARSH AT: T.4N., R.4W., MDB & M SECTION 28,29,30,31 & 32 COUNTY: NAPA/SOLANO STATE: CA APPLICATION BY: DEPT. OF FISH & GAME SHEET OF DATE 5-4-97

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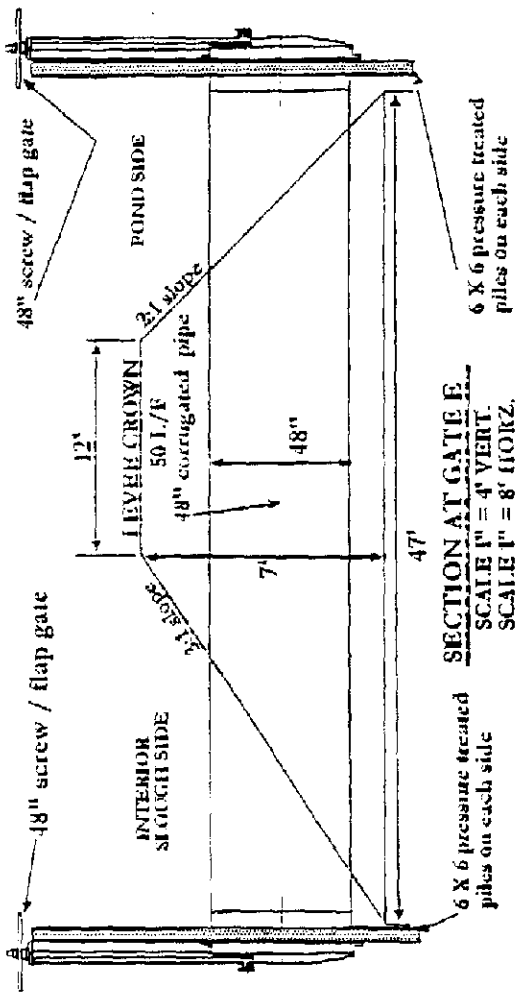
FIGURE 4:
POND 1A,
GATE "E" CROSS SECTION



PURPOSE: INSTALL NEW WATER CONTROL STRUCTURES DATUM: MLLW ADJACENT PROPERTY OWNERS: 1. CA. DEPT. OF FISH & GAME 2. U.S. FISH AND WILDLIFE SERVICE	CROSS SECTIONS 1" = 4' VERT. 1" = 8' HORZ. CA. DEPT. OF FISH & GAME CA. DEPT. OF FISH & GAME P.O. BOX 47 YOUNTVILLE, CA. 94599	PURPOSE: INSTALL NEW WATER CONTROL STRUCTURES IN: NAPA MARSH AT: T.4N., R.4W., MDB & M SECTION 23,29 30,31 & 32 COUNTY: NAPA/SOLANO STATE: CA APPLICATION BY: DEPT. OF FISH & GAME SHEET OF DATE 6-4-97

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IV. Costs and Schedule to Implement Proposed Project

IV.

a. **Budget Costs:**

The following budget for the proposed projects assumes a simultaneous effort between the Duck Club leasees project and the Departments project. This scenario would require the same contractor to bid and recieve both projects The Duck Club is constucting two new water control structures during the same time period. If we can install our proposed water control stuctures at the same time as the the Can Duck Club, there will be a mutual savings of time and money estimated to exceed $16,000. The requested funding for the Departments proposed water control structures is $221,000. In-kind services being supplied by the Department total $21,408. (See Table 1. below for details and cost breakdown).

Project 1:	$ 69,000
Project 2:	$ 85,000
Project 3:	$ 67,000
Total CALFED Funds:	**$221,000**

If unable to work cooperatively with the duck club lessees, an additional $10,000. would be required.

Table 1. Cost Breakdown Table

Project Phase and Task	Direct Labor Hours	Direct Salary and Benefits	Overhead Labor (General, Admin. and fee)	Service Contracts	Material and Acquisition Contracts	Miscellaneous and other Direct Costs	Total Cost (Fund Source)
Planning	10	$500	$120			$50	$670 (DFG)
Design	20	$1,000	$240			$100	$1,340 (DFG)
Engineer	10	$1,000	$240			$150	$1,390 (DFG)
Drawings	5	$500	$120			$100	$720 (DFG)
Permits	40	$3,600	$864			$2,000	$6,464 (DFG)
Contracts	40	$1,500	$360			$500	$2,360 (DFG)
Project1: Pond 2 structure				$34,000.00	$35,000.00		$69,000.00 (CALFED)
Project 2: Pond 2-A structure				$50,000.00	$35,000.00		$85,000.00 (CALFED)
Project 3: Pond 1-A structure				$32,000.00	$35,000.00		$67,000.00 (CALFED)
O&E Costs	40	$3,600	$864			$4,000	$8,464 (DFG)
TOTAL Project Cost							$242,408.00
DFG In-Kind Costs							$21,408.00
CALFED Funds							**$221,000.00**

b. **Schedule Milestones:**
The Contractor's bid for these projects presumes a construction period starting after August 31, 1998. Such construction, started upon target date to be specified in contract shall be completed within one month of said start date. However, a minimum thirty (30) day procurement period shall be afforded prior to the issuance of any start date. Full payment to the Contractor shall be made within thirty (30) days from the date of completion.

c. **Third Party Impacts:**
There will be not be any negative third party impacts with implementation of this project. There will be a realized savings to the Can Duck Club lessees of approximately $7000. if the Department can coordinate the timing of its projects with the duck clubs construction.

V. Applicant Qualifications

V.

The Department of Fish and Game currently owns and manages the 14,000 acre Napa-Sonoma Marshes Wildlife Area. This area has seven personnel including a Senior Wildlife Biologist Supervisor, an Associate Wildlife Biologist, a Fish and Wildlife Assistant, a Tractor Operator/Laborer, and 3 Scientific Aides. Other personnel participating in this project include or will include Department engineers, drafters, contract administrators, and other support staff.

Partial List of Staff:

- Jim Swanson, Senior Wildlife Biologist, Supervisor, Region 3, Wildlife Management;
  Senior Biologist Supervisor, (28 years with Department).
- Larry Wyckoff, Associate Wildlife Biologist, Napa-Sonoma Marshes Wildlife Area;
  Project Manager, Contact Manager, Coordination, Permits, Biological Information, Monitoring, Restoration Designer, (10 years with Department).
- Tom Huffman, Fish and Wildlife Assistant II, Napa-Sonoma Marshes Wildlife Area;
  Marsh Systems Operations, Water Manager, Monitoring, (5 years with Department)
- Scientific Aides, seasonal 1-2 years experience;
  Monitoring.
- Cindy Catalano, Regional Administrative Officer, Region 3;
  Contracting Expertise (17 years with the Department)
- Department of Fish and Game Engineering Staff, Sacramento;
  Design, Engineering, and Drawings
- Contractor ;
  Furnish and install three water control structures according to CALFED contract guidelines.